

Second
DOE/UN International Conference and Workshop
on
HYBRID POWER SYSTEMS
2002



April 16-17, 2002

Sponsored by
U.S. Department of Energy / National Energy Technology Laboratory
and the United Nations



TUESDAY, APRIL 16, 2002

- 7:00 a.m. **Registration/Continental Breakfast**
- 8:00 a.m. **Welcome**, Rich Dennis, Chairperson, U.S. Department of Energy, National Energy Technology Laboratory
- 8:15 a.m. **Keynote Address: National Energy Technology Laboratory Hybrid Program**
Rita Bajura, Director, U.S. Department of Energy, National Energy Technology Laboratory

SESSION 1 -

TECHNICAL ASSESSMENT OF FUEL CELL/TURBINE HYBRID POWER SYSTEMS

- 8:45 a.m. **International Speaker, TBD**
- 9:15 a.m. **Tubular SOFC Hybrids: Present and Prospect**
Stephen E. Veyo, Siemens Westinghouse Power Corporation
- 9:45 a.m. **Break**
- 10:15 a.m. **Solid Oxide Fuel Cell Hybrid System**
Nguyen Minh, Honeywell
- 10:45 a.m. **Direct Fuel Cell/Turbine Systems For Advanced Power Generation**
Hossein Ghezeli-Ayagh, Fuel Cell Energy, Inc.
- 11:15 a.m. **Scale-up of SECA Based Fuel Cell Technology for Large-Scale Hybrid Power Systems**
Speaker from Arthur D. Little
- 11:45 a.m. **Vision 21 Hybrid Concepts**
Ashok Rao, National Fuel Cell Research Center
- 12:15 p.m. **Lunch**

SESSION 2 - ADVANCED HYBRID CONCEPTS

- 1:45 p.m. **Overview of Biomass Power Program - Fuels, Chemicals and Power Production from Biomass with Potential Hybridization of Fossil Fuels**
Paul Grabowski, U.S. Department of Energy, Biopower Office
- 2:15 p.m. **Gasified Biomass Co-Fired with Coal at the Tampa Electric Company**
Michael J. Hornick, TECO Energy
- 2:45 p.m. **Overview of Advanced Hybrid Concepts**
TBD
- 3:15 p.m. **Break**
- 3:45 p.m. **Breakout Groups**

Group 1: Fuel Cell/Turbine Hybrid Power Systems
Moderator: Scott Samuelsen, Director National Fuel Cell Research Center

Group 2: Advanced Hybrid Concepts
Moderator: Peter Teagan, Arthur D. Little
- 5:30 p.m. **Adjourn**

WEDNESDAY, APRIL 17, 2002

- 7:00 a.m. **Registration/Continental Breakfast**
- 8:00 a.m. **Welcome**
National Energy Technology Laboratory

SESSION 3 -

MARKET ASSESSMENT AND MARKET OPPORTUNITIES FOR HYBRID SYSTEMS

- 8:15 a.m. **Market Assessment and Opportunities for Fuel Cell Hybrids**
Dan Rastler, EPRI
- 8:45 a.m. **Market Assessment of Hybrid Power Systems for DOE's Industries of the Future**
Speaker from Arthur D. Little
- 9:15 a.m. **Energy Developments in Central and Eastern Europe: Market Opportunities**
George Kowalski, Director, Sustainable Energy Division Economic Commission for Europe
- 9:45 a.m. **Break**

SESSION 4 - TURBINE DEVELOPMENT & INTEGRATION ISSUES

- 10:15 a.m. **Microturbine Generators for Fuel Cell/Microturbine Generator Hybrid Power Systems**
Thomas Rosfjord, United Technologies Research Corporation
- 10:45 a.m. **Strategic Technology Deployment**
Bill Treece, Capstone Turbine Corporation
- 11:15 a.m. **Turbine Development & Integration Issues: General Electric**
Dan Smith, General Electric Company
- 11:45 a.m. **Modeling of Fuel Cell/Turbine Hybrid Power Systems**
Randy Gemmen, National Energy Technology Laboratory
- 12:15 p.m. **Lunch**
- 1:30 p.m. **Breakout Group 1 Presentation: Fuel Cell/Turbine Hybrid Technical Issues**
Moderator/Presenter: Scott Samuelsen, University of California, Irvine
- 2:00 p.m. **Breakout Group 2 Presentation: Advanced Hybrid Concepts**
Moderator/Presenter: Peter Teagan, Arthur D. Little
- 2:30 p.m. **Break**
- 3:00 p.m. **Open Discussion on Breakout Group Presentations**
- 4:00 p.m. **Adjourn**

Conference Objective

For this meeting, hybrid power systems are considered to be the combination of two or more energy conversion devices that when combined synergistically enhance the performance of the hybrid system. The purpose of this conference will be to present and discuss emerging and/or novel concepts in hybrid power systems and to discuss the market opportunities for these systems. Additionally, the conference sponsors will use the meeting to convene facilitated working groups to assess technology issues, market opportunities and receive feedback on the program the National Energy Technology Laboratory has planned for this important technology.

Who Should Attend

Engineers, scientists, academics and developers working in the topic areas of advanced energy systems, with an emphasis on fuel cells, turbines, fuel-cell-based hybrid technology and other related hybrid energy technology for fossil- and biomass-based fuels.

Hotel

The Adam's Mark Charlotte Hotel, located at 555 S. McDowell Street in Charlotte, North Carolina, will be the official hotel for the Conference. The conference rate is \$99.00 single/double plus 13% tax.

For reservations, contact the hotel directly at (704) 372-4100. You must reference the U.S. Department of Energy to receive the special group rate listed above. A block of rooms for this conference will be held until March 23, 2002.

Check-in time is 3:00 p.m. and check-out time is 12:00 noon.

Transportation

Shuttle: Carolina Airport Express Shuttle Service: \$8.00 one way and \$15.00 round trip (704) 359-9600. No reservations are required. The shuttle service desk is located on the lower level of the airport near the US Airways baggage claim. The shuttle leaves the airport on an average of every 15 to 20 minutes.

For shuttle reservations returning to the airport, please contact the hotel's Bell Captain to obtain a schedule of departure times.

Taxi: Approximately \$16.00 one way, to or from the airport. Taxi service is available outside of the baggage pickup.

Driving Directions from Charlotte-Douglas Airport

Total estimated time is 17 minutes

Take airport freeway to Billy Graham Parkway, follow signs to I-77. Turn left on South Tryon Street. Stay in right lane and turn on I-77 North to exit 9 (John Belk Freeway). Follow John Belk (I-277) for approximately two miles to the exit (the 3rd St/4th St. exit). Go left on 4th street for 1 block to McDowell Street. Turn left onto McDowell Street and the hotel is two blocks down McDowell on the left.

Registration Fee

\$110.00

This fee is to cover the cost of continental breakfasts, lunches, and conference breaks.

Registration fee cannot be refunded after April 1, 2002.

The registration deadline is April 8, 2002. To register, complete the registration form included in this announcement and mail or fax it to NETL Event Management. A check or credit card can be used for payment of the registration fee.

Foreign National Visitor Notice

All foreign nationals who wish to attend DOE-sponsored conferences, meetings, workshops, or seminars are required to submit NETL Form F142.1-1 requesting a DOE unclassified visit. A minimum of 45 days advance notice is required for the review and approval process for unclassified foreign national visits. A foreign national is any person who is not a U.S. Citizen and includes permanent resident alien (PRAs or "green card holder").

NETL supports an active program of unclassified visits by foreign nationals. International cooperation and collaboration is an important element within our program. NETL is required to ensure that these visits are conducted under prescribed conditions in a manner consistent with the U.S. Department of Energy's policies.

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